

## Curriculum Vitae

### Douglas Scott Merrell, Ph.D.

#### **Business Information**

Uniformed Services University of the Health Sciences  
Department of Microbiology and Immunology  
4301 Jones Bridge Road  
Bethesda, MD 20814  
Phone: (301) 295-1584  
Fax: (301) 295-3773  
E-mail: dmerrell@usuhs.mil

#### **Research Interests**

- Stress response and survival mechanisms of pathogenic bacteria
- Regulatory mechanisms of *H. pylori*
- Epidemiology of *H. pylori*-induced gastric disease
- Etiology and mechanisms of *H. pylori*-induced gastric cancer

#### **Education/Training**

1988-1992 B.S. Biology *magna cum laude*  
Lyon College  
1994-1996 M.S. Microbiology  
University of Arkansas  
Advisor: Mack Ivey, Ph.D.  
1996-2001 Ph.D. Molecular Biology and Microbiology  
Tufts University School of Medicine  
Advisor: Andrew Camilli, Ph.D.  
2001-2004 Postdoctoral Fellow  
Stanford School of Medicine  
Advisor: Stanley Falkow, Ph.D.

#### **Professional History**

2004-2009 Assistant Professor (Primary)  
Department of Microbiology and Immunology  
Uniformed Services University (USU)  
2004-2009 Assistant Professor (Secondary)  
Molecular and Cellular Biology Graduate Program, USU  
2005-2009 Assistant Professor (Secondary)  
Emerging Infectious Diseases Graduate Program, USU  
2009-present Associate Professor (Primary)  
Department of Microbiology and Immunology  
Uniformed Services University (USU)  
2009-present Associate Professor (Secondary)  
Molecular and Cellular Biology Graduate Program, USU  
2009-present Associate Professor (Secondary)  
Emerging Infectious Diseases Graduate Program, USU

#### **Awards and Fellowships**

1989-1992 Nichols Undergraduate Research Fellow  
1997-1999 NIH Pathogenesis Graduate Fellow  
1999 Sackler Travel Fellow  
2001-2002 ID Training Fellow in "Applied Genomics of Infectious Diseases"  
2002-2003 Stanford Digestive Disease Collaborative Postdoctoral Fellow  
2002-2005 Damon Runyon-Walter Winchell Cancer Fund Postdoctoral Fellow  
2008 Merck Irving S. Sigal Memorial Award for excellence in basic research in medical microbiology and infectious diseases.  
2008 USU Outstanding Service Medal for meritorious service as the Faculty Senate Research Committee Chair

**Professional Societies  
and Advisory Boards**

American Society for Microbiology, 1996-Present  
American Association for the Advancement of Science, 2007-Present  
American Gastroenterological Association, 2007-Present  
US Military Cancer Institute, 2005-Present  
Scientific Advisory Board of Ondek Biologic Delivery Systems, 2006-Present  
Advisory Committee for the International Workshop on *Campylobacter*,  
*Helicobacter* and Related Organisms

1. **D.S. Merrell**, and J.J. Mekalanos. "Strategies to Identify Bacterial Pathogenicity Factors" IN: Principles of Bacterial Pathogenesis. E. Groisman, ed., Academic press, New York, NY. pp. 133- 177, 2000.
2. **D.S. Merrell** and S. Falkow. "Frontal and Stealth Attack Strategies in Microbial Pathogenesis." *Nature* 430 (6996):250-6, 2004.
3. **D.S. Merrell**. "Interaction of *Helicobacter pylori* with the Gastric Mucosa" IN: *Bacterial-Epithelial Cell Cross-Talk: Molecular Mechanisms in Pathogenesis*. B.A. McCormick, ed., Cambridge Press. 2006.
4. K.R. Jones, J. Cha and **D.S. Merrell**. "Who's Winning the War? Molecular Mechanisms of Antibiotic Resistance in *Helicobacter pylori*." *Current Drug Therapy* Vol. 3, No. 3: 190-203, 2008.
5. J.J. Gilbreath, W.L. Cody, **D.S. Merrell\***, and D.R. Hendrixson. "Change is Good: Variations in Common Biological Mechanisms in the  $\epsilon$ -proteobacteria *Campylobacter* and *Helicobacter*." *Microbiology and Molecular Biology Reviews*. (In Press).
1. **D.S. Merrell**, S.M. Butler, F. Qadri, N. A. Dolganov, A. Alam, M.B. Cohen, S.B. Calderwood, G.K. Schoolnik, and A. Camilli. "Host Induced Epidemic Spread of the Cholera Bacterium." *Nature* 417(6889):642-645, 2002. PMC2776822
2. L.J. Thompson, **D.S. Merrell**, B.A. Neilan, H. Mitchell, A. Lee and S. Falkow. "Gene expression profiling of *Helicobacter pylori* reveals a growth phase dependent switch in virulence gene expression." *Infection and Immunity* 71(5):2643-2655, 2003. PMC153220
3. S.H. El-Etr, A. Mueller, L.S. Tompkins, S. Falkow and **D.S. Merrell**. "Phosphorylation-Independent Effects of CagA During Interaction of *H. pylori* with Polarized Monolayers." *Journal of Infectious Diseases* 190(8):1516-23, 2004.
4. A. Mueller, **D.S. Merrell**, J. Grimm and S. Falkow. "Profiling of Microdissected Gastric Epithelial Cells Reveals a Cell Type Specific Response to *Helicobacter pylori* Infection." *Gastroenterology*, 127(5):1446-62, 2004.
5. B.M. Carpenter, T.K. McDaniel, J.M. Whitmire, H. Gancz, S. Guidotti, S. Censini and **D.S. Merrell**. "Expanding the *Helicobacter pylori* Genetic Toolbox: Modification of an Endogenous Plasmid for Use as a Transcriptional Reporter and Complementation Vector." *Applied and Environmental Microbiology*, 73(23): 7506-7514, 2007. PMC2168067
6. S.Y. Kim, Y.M. Joo, H.S. Lee, I.S. Chung, Y.J. Yoo, **D.S. Merrell\*** and J.H. Cha. "Genetic Analysis of *Helicobacter pylori* Clinical Isolates Suggests Metronidazole Resistance Can Occur Without the Loss of Functional *rdxA*." *Journal of Antibiotics*, 62(1):43-50, 2009.
7. K.R. Jones, Y.M. Joo, S.I. Jang, Y.J. Yoo, H.S. Lee, I.S. Chung, C.H. Olsen, J.M. Whitmire, **D.S. Merrell\*** and J.H. Cha. "Polymorphism in the CagA EPIYA Motif Impacts Development of Gastric Cancer." *Journal of Clinical Microbiology*, 47(4):959-68, 2009. PMC2668329
8. M.O. Makobongo, T. Kovachi, H. Gancz, A. Mor, and **D.S. Merrell**. "In Vitro Anti-bacterial Activity of Acyl-lysyl Oligomers against *Helicobacter pylori*." *Antimicrobial Agents and Chemotherapy*, 53 (10):4231-4239, 2009. PMC2764229
9. S. Miles, M.B. Piazuelo, C. Semino-Mora, M.K. Washington, A. Dubois, R.M. Peek Jr., P. Correa, and **D.S. Merrell**. "Detailed *in vivo* Analysis of the Role of *Helicobacter pylori* Fur in Colonization and Disease." *Infection and Immunity*, 78(7):3073-82, 2010. PMC in Process

10. B.M. Carpenter, H. Gancz, S.L. Benoit, S. Evans, C.H. Olsen, S.L.J. Michel, R.J. Maier, and **D.S. Merrell**. “Mutagenesis of Conserved Amino Acids of *Helicobacter pylori* Fur Reveals Residues Important for Function.” *Journal of Bacteriology*, 192(19):5037-52, 2010. PMC in Process